Newmarket Lane, Methley, West Yorkshire Newmarket Lane, Methley, West Yorkshire

Geoarchaeological Assessment Report

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Newmarket Lane, Methley, West Yorkshire

Geoarchaeological Report

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With illustrations by Mark Tidmarsh

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Summary

Oxford Archaeology (OA) North was commissioned by The Environment Partnership (TEP) to undertake a geoarchaeological assessment of a proposed development south of the M62 and north of Newmarket Lane, Methley, West Yorkshire (NGR: SE 436671 425692).

The main aim of the work was to develop a deposit model to permit an understanding of development of the landscape, through identification of the sub-surface sediment sequence. The site lies on the edge of former glacial Lake Humber, an area that has the potential to have been attractive to Palaeolithic and Mesolithic peoples.

Records from a total of 69 geotechnical interventions, including historical borehole data, have been used to compile the deposit model. The model shows that a layer of topsoil rests directly on the weathered surface of bedrock of the Pennine Middle Coal Measures. Evidence for deposition of possible glacial or fluvio-glacial sediments is limited to areas to the north and east, outside the site boundary. The interpreted deposit model does not identify any horizons within the sediment sequence with the potential to preserve evidence for prehistoric human activity/occupation.

Acknowledgements

Oxford Archaeology (OA) North would like to thank Sarah Hannon-Bland of The Environment Partnership (TEP) for commissioning this project.

The project was managed for OA North by Paul Dunn. The geoarchaeological assessment work was undertaken by Mairead Rutherford, who used the borehole data to compile a deposit model and write the report. The illustrations were produced by Mark Tidmarsh.

1 INTRODUCTION

1.1 Scope of work

1.1.1 Oxford Archaeology (OA) North was commissioned by The Environment Partnership (TEP) to undertake a geoarchaeological assessment and to compile and interpret a deposit model for a site north of Newmarket Lane, Methley, West Yorkshire (NGR SE 436671 425692; Fig 1).

1.1.2 The work was undertaken to advise a planning application for a multi-use development on the site. A brief for the geoarchaeological assessment was provided to TEP by the planning archaeologist for West Yorkshire Archaeological Advisory Service (WYAAS). OA North were subsequently commissioned by TEP to produce this geoarchaeological assessment.

1.2 Location, topography and geology

1.2.1 The site lies approximately 6km to the north-east of Wakefield (centered on SE366256), to the south of the M62 motorway and north of Newmarket Lane.

1.2.2 The focus of this geoarchaeological assessment is the northern area of proposed development consisting of an undulating, irregular rectangular-shaped plot, of approximately 20 hectares. This area broadly slopes from west to east, with elevations between 50m OD to 30m OD.

1.2.3 The geology of the area is mapped by the British Geological Survey (BGS), with bedrock comprising the Pennine Middle Coal Measures, of Carboniferous age, underlying the site. A drift map of the area shows sporadic deposits of till, possibly some alluvium and possible occurrence of undifferentiated river terrace deposits in the general area, but there is an obvious absence of mapped superficial deposits (Giles 1988, Fig. 8, p. 25). An area of made ground has been identified south/south-east of the area and is believed to be related to earlier coal mining activity (BWB 2017). No evidence has been recorded for the presence of superficial deposits across the remainder of the proposed development (BWB 2017).

1.3 Archaeological and historical background

1.3.1 The archaeological and historical background of the site is discussed in more detail elsewhere; however, it is worth pointing out that two hand-axes, of Middle Palaeolithic age, have been recorded from deposits (which may have been disturbed as a result of glacial activity) from Lee Moor, Stanley, near Wakefield (PRN3813) (WYAAS 2016). It has been suggested that the area may have been attractive to Palaeolithic hunter-gatherers (Smith 1992) as it is close to projected, modelled margins of former glacial Lake Humber (WYAAS 2016). The potential therefore exists for the survival of prehistoric remains at or near possible water edge and wetland environments within the site area, as the site occurs within a mapped 1km buffer zone of the projected lake edge (Clarke *et al* 2004, WYAAS 2016). Excavations further east, at Ferrybridge, revealed lacustrine sediments of former Lake Humber and these were dated by Optically Stimulated Luminescence (OSL) to *c* 14,650 BC with evidence that the lake was silted up by *c* 9150 BC (Late Devensian to early Holocene) (WYAAS 2016).

1.3.2 Mesolithic sites at or near riverine settings within the lowlands of West Yorkshire have been described at Pugneys and Sandal Castle, Wakefield and are generally found at elevations of less than 100m and possibly associated with river terraces (WYAAS 2016).

1.4 Regional Landscape Development

1.4.1 West Yorkshire, as a region, was affected by several cold periods during the Quaternary period (which comprises the Pleistocene and Holocene Epochs). Prior to the Ipswichian (temperate stage within the Pleistocene), the area was covered by ice on at least one occasion (Giles 1988). Animal bones of Hippopotamus have been recorded from Ipswichian interglacial terrace deposits of the River Aire (Denny 1854) and fluviatile deposits of river sand and gravel, containing Ipswichian interglacial deposits, also occur near Doncaster (West 1977).

1.4.2 It is probable that for much of the Devensian (a cold stage following the Ipswichian), the site area remained free of ice, as the glaciers terminated further to the north; however, fluvio-glacial sediments would have been deposited under periglacial, conditions as were deposits of sands and gravels associated with glacial Lake Humber (West 1977). Mapping the advances and retreats of the British and Irish ice sheets has revealed that North Sea ice lobes and the Vale of York ice lobe may have formed ice dams, resulting in a series of proglacial lakes in the lowland terrain of eastern England; the damming of the Humber Gap by the North Sea ice lobe resulting in the creation of Lake Humber (Fig 4; Bateman *et al* 2015; Bateman *et al* 2018).

1.4.3 Following the climatic changes at the end of the Devensian and the draining of Lake Humber, meandering river systems developed, re-sorting and re-depositing the fluvio-glacial deposits (Giles 1988). Within this part of West Yorkshire, glacial till occurs in isolated patches, with the thickest deposits found on the watershed between the Calder and Aire, around Rothwell and to the south of Oulton (*ibid*). In these areas, till is described as a yellowish brown slightly sandy silty clay with pebbles and sporadic cobbles.

1.4.4 Glacial sands and gravels laid down in fluvial and fluvio-glacial deposits are found in close association with till between the Aire and Calder. These terrace deposits generally rest directly on bedrock.

1.4.5 Alluvial deposits occur along the margins of the River Aire and River Calder, forming spreads hundreds of metres wide (*ibid*). A number of abandoned meanders associated with the River Calder record deposits of silty clays with interbedded peats, including woody birch fragments.

2 AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The project aims and objectives were as follows:

i. to utilise available borehole data to characterise the sub-surface deposits at the site;
ii. to interpret the sub-surface stratigraphy in order to understand landscape development;
iii. to evaluate the data regarding the presence or absence of areas of potential archaeology;
iv. to make recommendations for further work or otherwise, based on the results of the deposit model / geoarchaeological study.

2.2 Methodology

2.2.1 The geoarchaeological study utilised historic borehole data from the BGS online database (2020) in addition to borehole logs available for plots 1-4 (BWB, 2017). The work was undertaken in accordance with the relevant Chartered Institute for Archaeologists (CIfA) and Historic England (HE) guidelines (CIfA 2017; 2019; HE 2015) This report covers the stratigraphic sequence interpreted from the borehole lithological sequences, from which a deposit model has been compiled. A summary of the geotechnical interventions is provided in Table 1 below.

Type	Quantity	Depth range (m)	Exploratory hole IDs
Cable Tool / Cable Percussion Boring	27	0 – 5.80	BH01-BH11; BGS-245, 247, 249, 252, 255, 257, 261, 264, 269, 270, 272, 277, 278, 279, 280, 282
Cable Tool + Rotary Open Hole	4	0-12.9	BGS-254, 259, 267, 274
Rotary Core	13	0-50	RC01-RC02; R001-R012
Machine dug Trial Pits and Test Pits	19	0-4	TP01-TP16 and TT01-TT03
Window-sampler	2	0-4	BGS-791, 792
Unknown (1967 logs)	4	0-15.85	BGS-132, 138, 140, 143
Total	**69**		

Table 1: Summary of geotechnical interventions

2.2.2 The lithological data from the geotechnical logs were entered into geological modelling software (Rockworks™ v17.0) to allow correlation of broad stratigraphic units. Representative west/east and north/south linear transects (Fig 2 and 3) have been constructed to illustrate the distribution and extent of identified stratigraphic units across the scheme (Fig. 5). The results of the modelling were imported into GIS software for comparison with LiDAR data.

2.2.3 It should be noted that all data derive from paper records and several of the BGS borehole records are quite old (e.g. BH-132, dating from 1967). The problems associated with using geotechnical records in geoarchaeological deposit modelling have been outlined by Bates (1998) and recently reviewed for linear corridors in Carey

et al 2018. However, the BGS borehole data along with more recent borehole data (BWB 2017) have provided sufficient information across the site to permit a broad stratigraphic interpretation.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 A deposit model has been created from 69 interventions and is presented as a series of stratigraphic transects (Fig. 5). *Appendix A* provides details of the geotechnical locations and *Appendix B* presents the interpreted stratigraphy for each intervention.

3.1.2 Each stratigraphical unit has been given a colour, allowing broad correlation of units each of which represents distinct depositional environments. The following stratigraphic sequence has been identified:

- Pennine Middle Coal Measures - yellow
- Glacial deposits - blue
- Made Ground - black
- Topsoil - red

3.2 Stratigraphic sequence

3.2.1 Bedrock comprises deposits of the Pennine Middle Coal Measures, of Carboniferous age (Westphalian Epoch, *c* 300 million years ago). These deposits comprise interbedded grey mudstone, siltstone, pale grey sandstone and commonly, coal seams (BGS 2020). These deposits occur close to the surface, just beneath topsoil, over most of Plot 4, for example BGS-254, 257, 264, 269, 272, 279, 280 and 282. However, data from BH01-BH10 record grey/brown clay and gravelly clay, ranging in thickness from approximately 2-4m, overlying mudstones or siltstones and both lithological units are interpreted on the logs as indicative of deposits of the Pennine Middle Coal Measures (BWB 2017). It is likely that this upper clay unit represents weathered bedrock and therefore both lithological units are interpreted as indicative of the Pennine Middle Coal Measures for creation of the deposit model.

3.2.2 Possible glacial deposits (till) are interpreted from historic borehole sediment sequences accessed via the British Geological Survey GeoIndex (BGS 2020). These sediment sequences occur immediately to the north of the defined Plot 4 area and just south of the M62 and contain firm brown yellow sandy clay deposits up to 1.8m thick (for example, BGS-132). Further to the east, and again outside the development area, sediments comprising firm brown sandy clay and gravel may represent glacial till deposits up to 2.7m thick (for example, BGS-140), whereas deposits of dense grey to brown fine clayey sand and coarse sand, up to 1.2m thick, have been interpreted as possible “terrace deposits”, possibly reflecting fluvial or fluvio-glacial deposition (BGS-143).

3.2.3 The apparent absence of glacial till and/or fluvio-glacial deposits across the site may suggest that the area was outside the limits of the most recent Devensian glaciation and/or that glacio-fluvial activity in the area was erosional rather than depositional.

3.2.4 There is no record for post-glacial, Holocene deposits across the northern part of the development area. To the south-east of the site and well outside the site boundary, deposits from borehole BGS-151, document recovery of over 2.5m of very soft silty peaty clay with decayed vegetation, which may represent accumulation of organic rich

deposits in a palaeochannel or meander cut-off channel of the River Calder or tributaries.

3.2.5 Made ground is described from south of the site and comprises brown gravelly topsoil with brick, ceramic, clinker and coal (e.g. BH10 and TP12-13 and TT01-03). It is possible that a build-up of made ground could conceal and preserve an underlying land surface; however, these deposits are outside Plot 4, central to the current study.

4 DISCUSSION

4.1 Deposit Model

4.1.1 Overall, the deposit modelling has resulted in a broad characterisation of the nature and extent of the sub-surface stratigraphy of Plot 4, as well as more generally across the entire site and beyond the site margins. However, a number of points are worthy of note regarding the reliability of the model.

4.1.2 The modelling is based on historical records from previous geotechnical ground investigations, some dating back to 1967 (BGS data) as well as borehole, trial pit and test pit data provided by BWB (2017). The deposit model is based on both the lithology and inferred stratigraphy interpreted from the borehole data and is a product of work by several agencies and individuals.

4.1.3 The distribution of interventions across the site (Plot 4) is good, and together with BGS data for the northern part of the site (adjacent to the M62), provides a comprehensive database, from which to interpret the sub-surface stratigraphy.

4.1.4 The data and transects show that the area of Plot 4 comprises topsoil (generally 0.30-0.40m thick, but up to 0.60m (e.g. BGS-264) or as little as 0.15m (e.g. BGS-257), resting directly on bedrock of the Pennine Middle Coal Measures.

4.1.5 The data from boreholes immediately outside the site boundary area were also evaluated due to the position of the site close to the projected boundary for glacial Lake Humber and the potential archaeological significance of such deposits. Possible glacial till deposits were recorded from immediately north of the boundary area of Plot 4, as well as to the east of the site boundary, providing potential evidence of post-glacial meltwater deposition in this location; however, no diagnostic lacustrine sediments were identified from the borehole records.

5 RECOMMENDATIONS

5.1.1 There are no recommendations for further geoarchaeological work at this site. No evidence was interpreted from the sediment sequences within the interventions to suggest deposition of lacustrine deposits that may have indicated a marginal location adjacent to palaeo-Lake Humber. No accumulations of sediments of Holocene age have been recorded across the site.

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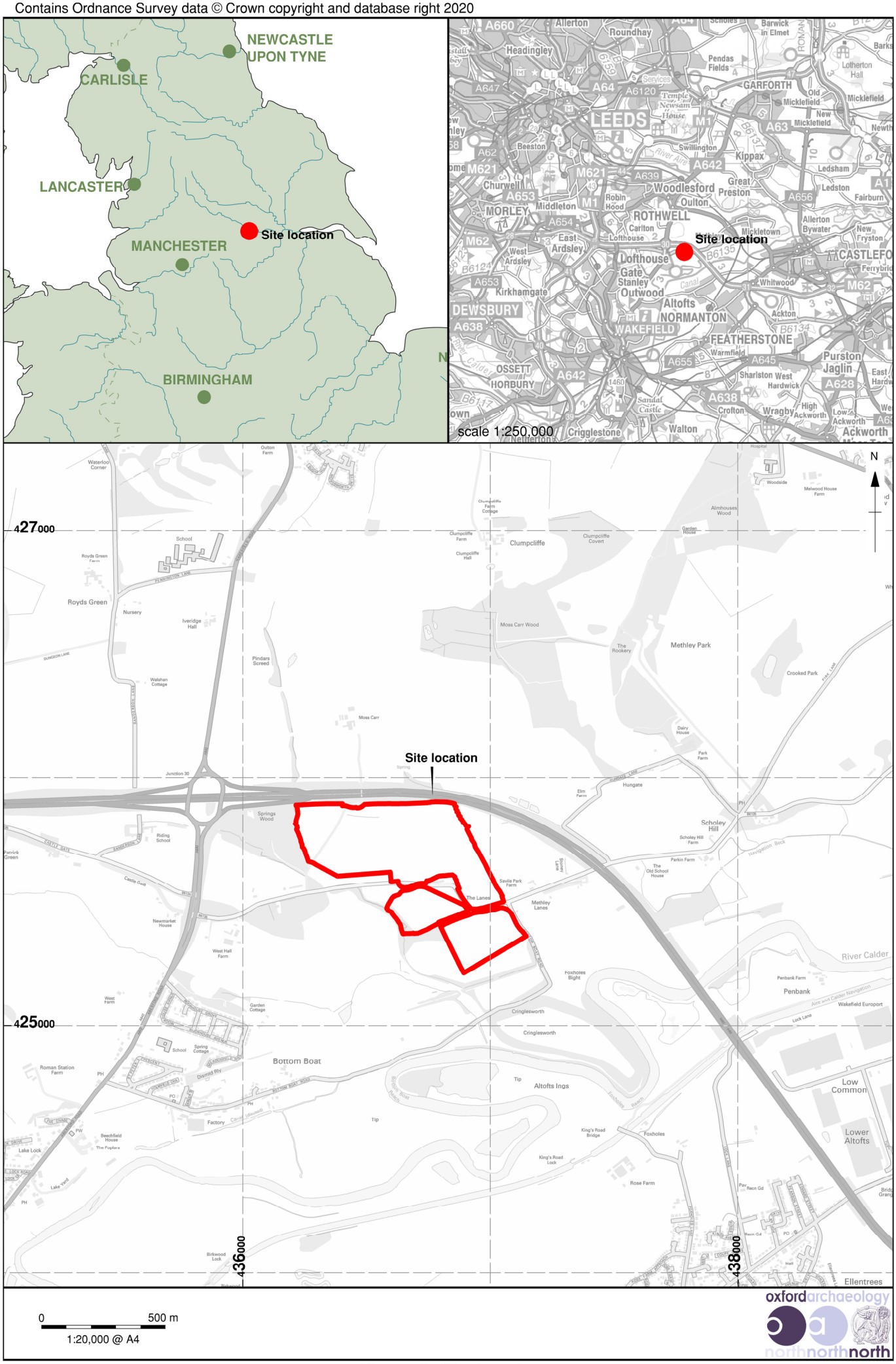


Figure 1: Site location

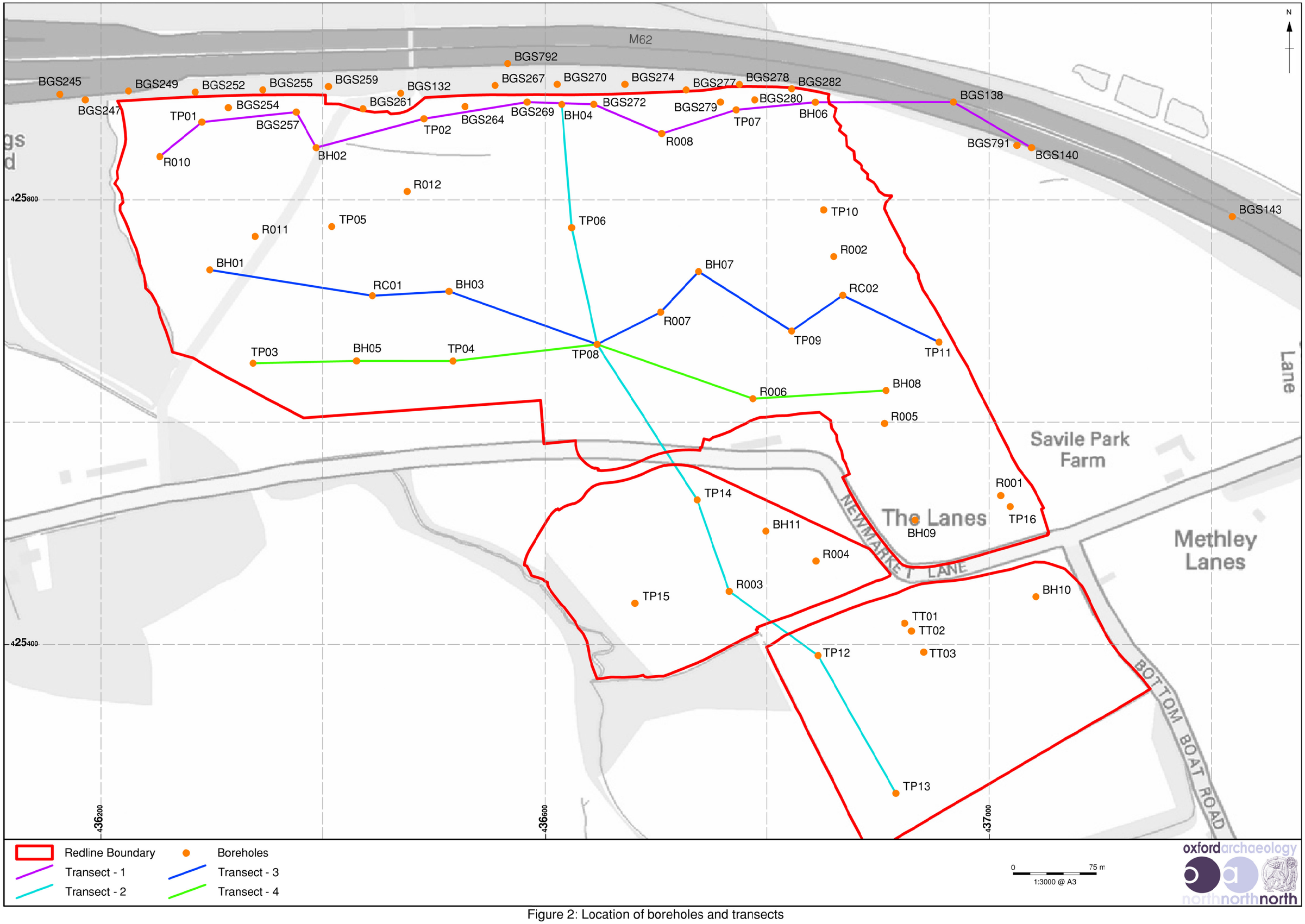


Figure 2: Location of boreholes and transects

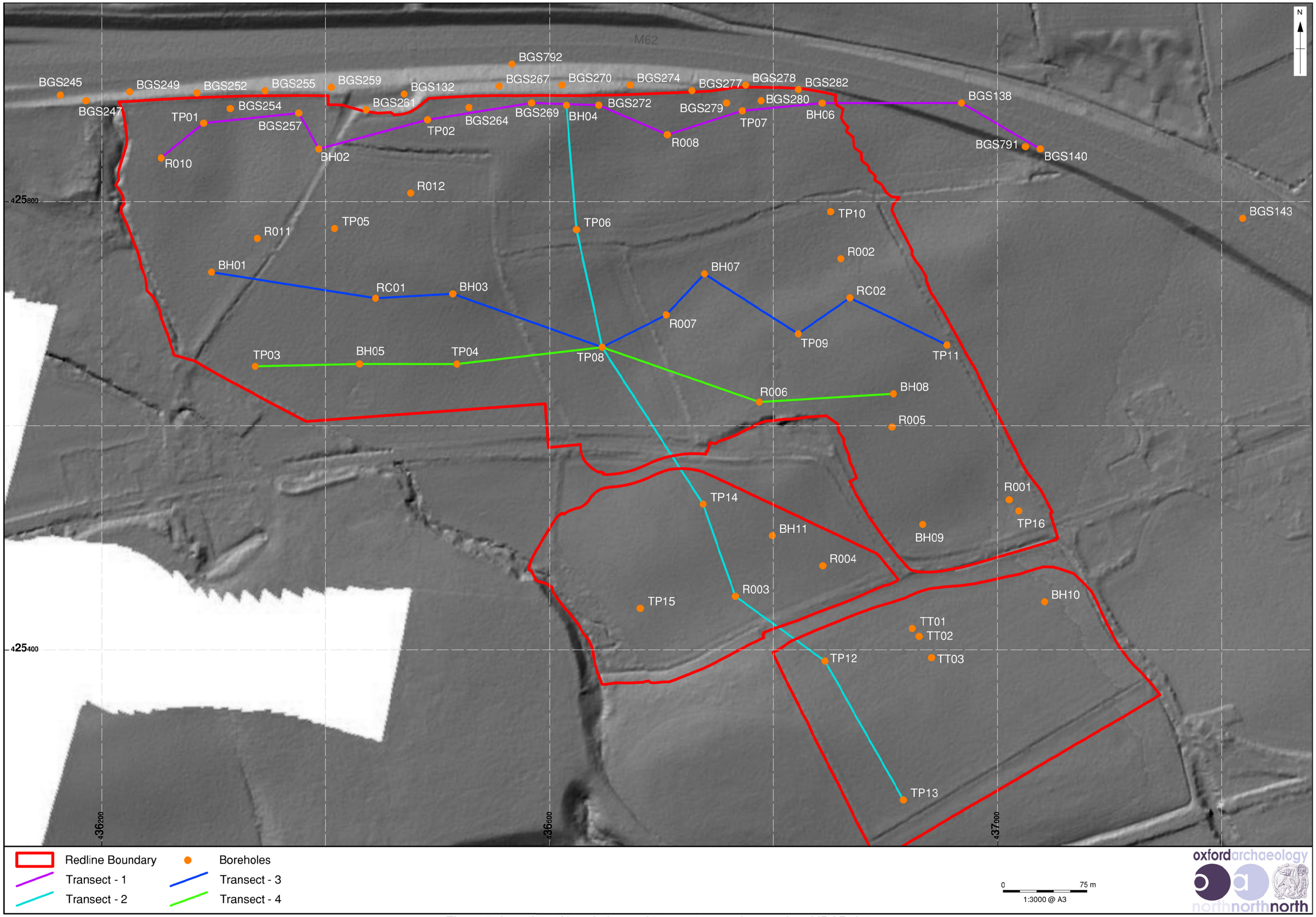


Figure 3: Location of boreholes and transects superimposed on LiDAR data

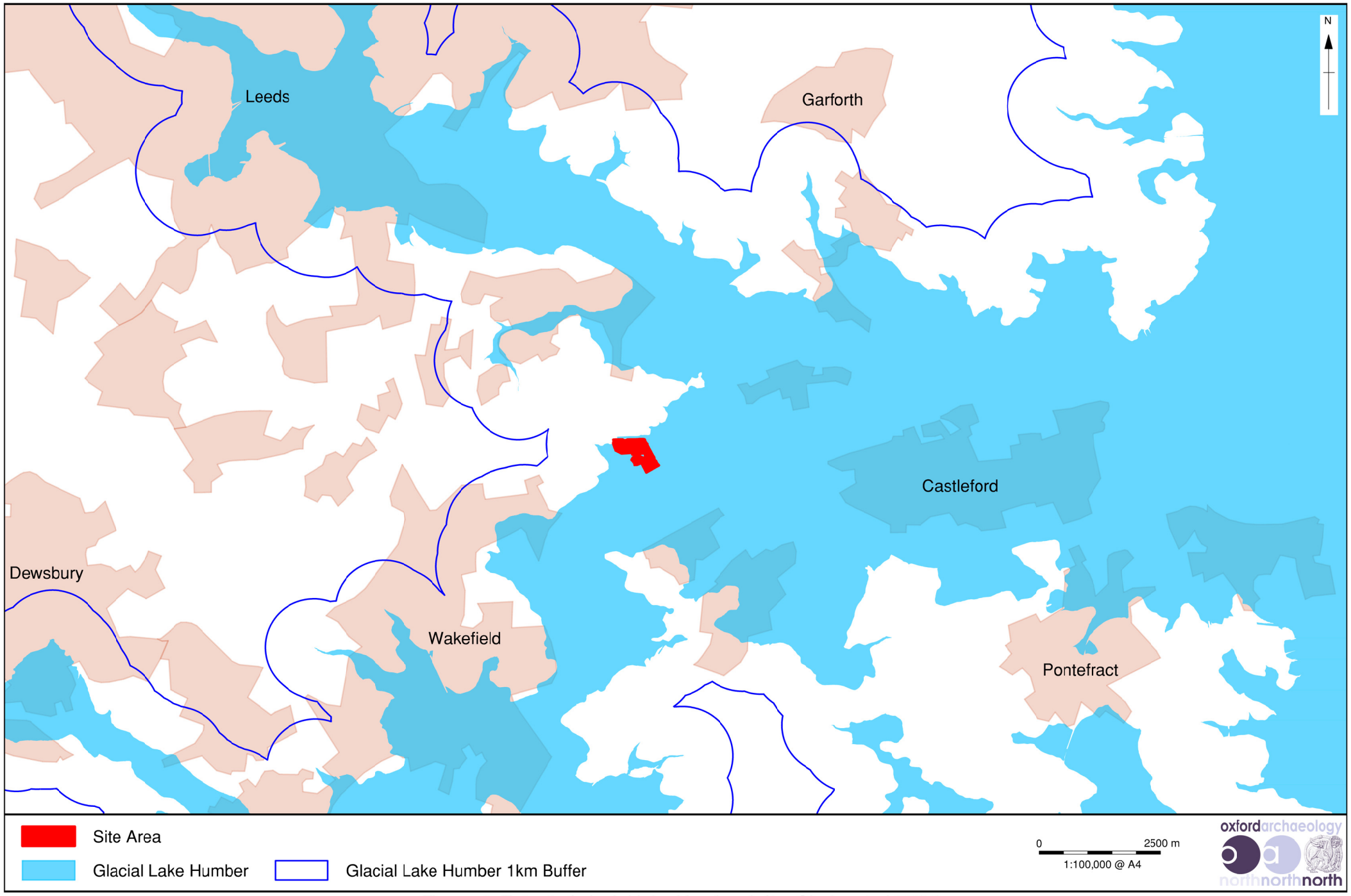


Figure 4: Extent of glacial lake Humber (after Clarke et al 2004)

Fig.5a Transect 1 - Main West-East Section (RO10 - BGS140)

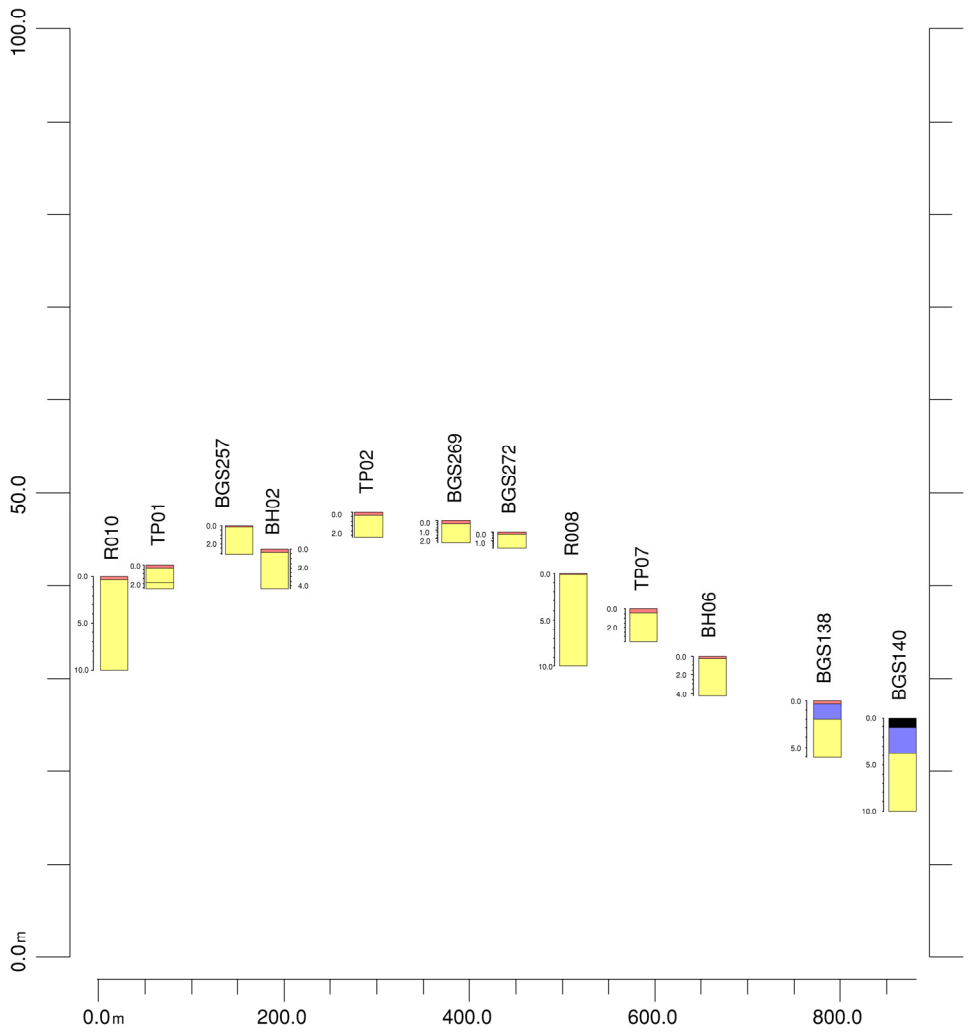


Fig.5b Transect 2 - Main North-South Section (BH04 - TP13)

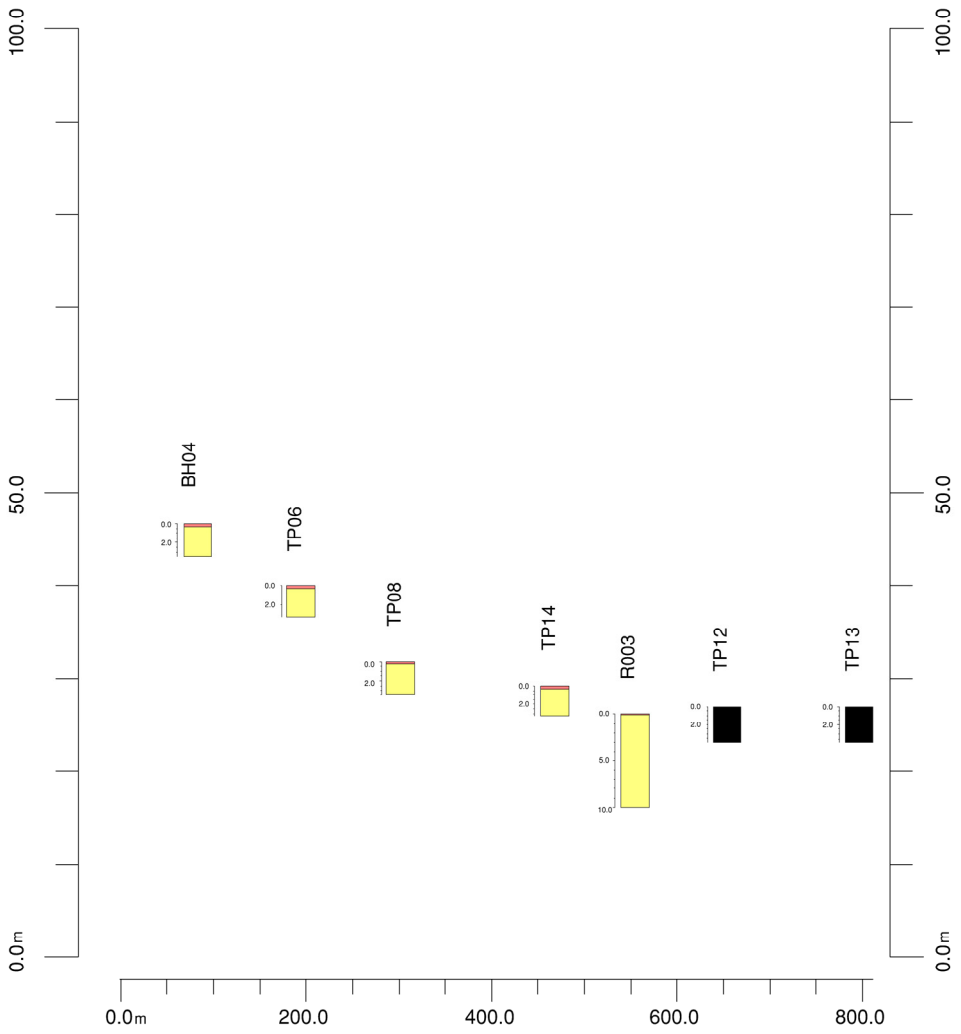


Fig.5c Transect 3 - West-East Correlation Section (BH01-TP11)

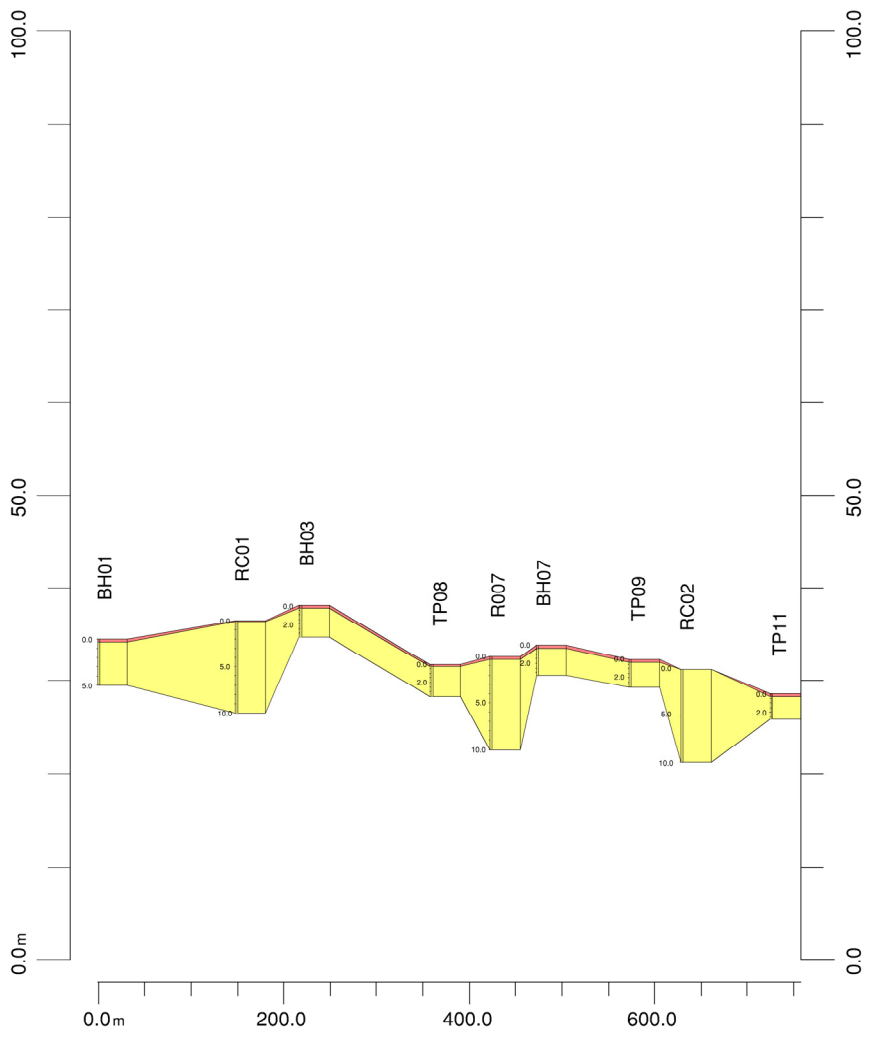
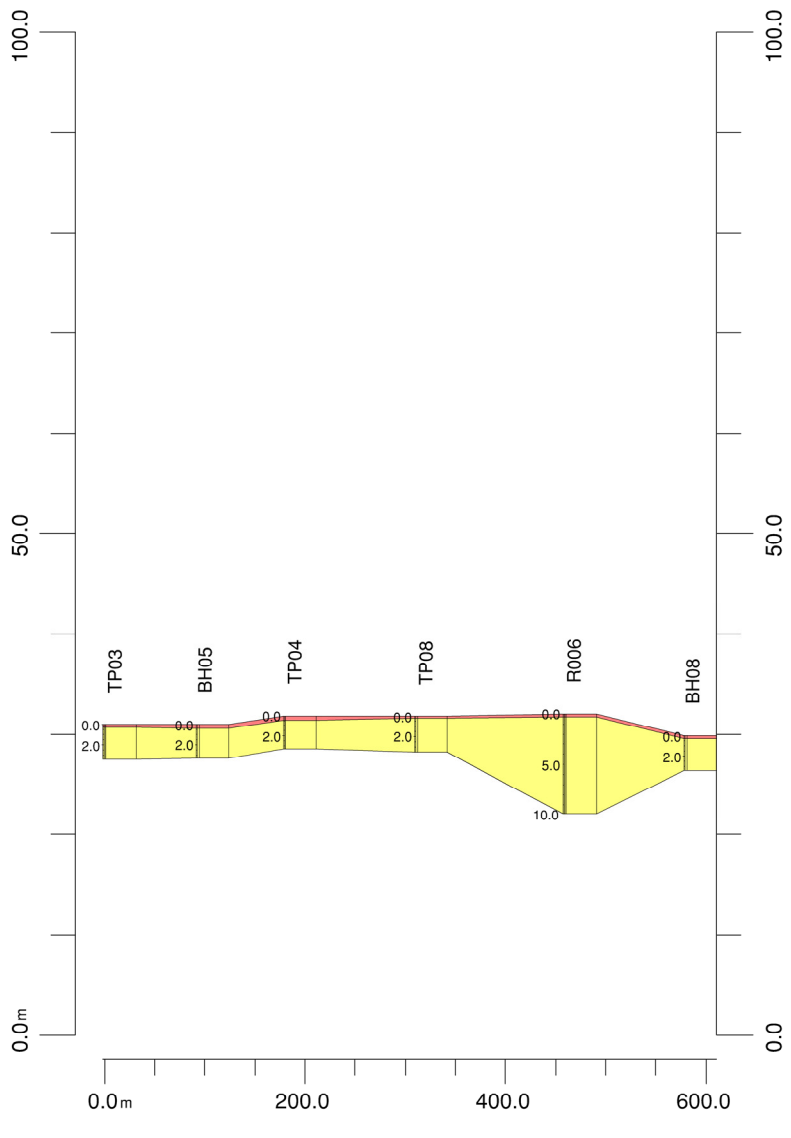


Fig.5d Transect 4 - West-East Correlation Section (TP03-BH08)



Pennine Middle Coal Measures
Glacial Deposits
Made Ground
Topsoil

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Figure 5: Borehole transect sections

APPENDIX A DEPOSIT MODEL DATASET – LOCATION DETAILS

Borehole	Easting	Northing	Elevation	Total depth
BGS132	436470	425896	48	15.85
BGS138	436968	425888	27.6	6.1
BGS140	437038	425847	25.7	13.72
BGS143	437219	425785	21	9
BGS245	436163	425895	45	4.88
BGS247	436186	425890	44	4.57
BGS249	436225	425898	46	3.35
BGS252	436285	425897	46	3.35
BGS254	436315	425883	45	7.62
BGS255	436346	425899	46.6	3.05
BGS257	436376	425879	46.48	3.05
BGS259	436405	425902	48.8	12.9
BGS261	436436	425882	48.79	2.13
BGS264	436528	425884	47.7	1.83
BGS267	436555	425903	47	11.89
BGS269	436584	425888	47	2.44
BGS270	436611	425904	46.2	2.13
BGS272	436644	425886	45.84	1.83
BGS274	436672	425904	44	9.14
BGS277	436727	425899	40.9	1.52
BGS278	436775	425904	35.75	3.3
BGS279	436758	425888	38	1.83
BGS280	436789	425890	35.8	1.52
BGS282	436822	425900	33.4	1.83
BGS791	437025	425849	28.42	4
BGS792	436566.51	425922.7	36.61	0.5
BH01	436297.99	425737.02	34.49	5.08
BH02	436393.93	425846.96	43.94	4.3
BH03	436513.45	425717.69	38.12	3.45
BH04	436615.21	425885.92	46.64	3.45
BH05	436430.06	425655.1	30.96	3.3
BH06	436843.45	425887.87	32.41	4.3
BH07	436738.19	425735.56	33.87	3.3
BH08	436907.03	425628.47	29.83	3.4
BH09	436933.26	425511.89	24.34	3.3
BH10	437042	425442.92	21.21	3.45
BH11	436798.96	425501.94	28.2	3.3
R001	437010.64	425533.9	21.8	30
R002	436860	425749	26.38	30
R003	436765.94	425447.72	26.12	40

R004	436844.05	425475.01	26.33	30
R005	436905.61	425598.83	28.32	30
R006	436787.36	425621.09	32.02	30
R007	436704.27	425698.94	32.6	50
R008	436705.31	425859.7	41.29	40
R010	436253.01	425838.92	40.91	30
R011	436338.98	425767.11	36.92	30
R012	436475.94	425807.59	44.04	30
RC01	436444.61	425713.73	36.51	30
RC02	436868.23	425714.16	31.26	30
TP01	436291	425870	42.25	2.6
TP02	436491	425873	47.92	2.65
TP03	436337	425653	30.94	3.4
TP04	436517	425655	31.84	3.3
TP05	436408	425776	40.79	4
TP06	436624	425775	39.93	3.4
TP07	436772	425881	37.46	3.5
TP08	436647	425670	31.78	3.5
TP09	436822	425682	32.28	3
TP10	436851	425791	32.2	3.7
TP11	436955	425672	28.56	2.7
TP12	436846	425390	26.99	3.9
TP13	436916	425266	26.97	3.9
TP14	436737	425530	29.22	3.3
TP15	436681	425437	25.24	3
TP16	437019	425524	21.35	3.6
TT01	436924	425419	23.77	3.5
TT02	436930	425412	23.88	3.6
TT03	436941	425393	24.3	4

APPENDIX B DEPOSIT MODEL DATASET – INTERPRETED STRATIGRAPHY

Borehole	Depth1	Depth2	Stratigraphy
BGS132	0	0.23	Topsoil
BGS132	0.23	0.6	Glacial
BGS132	0.6	1.8	Glacial
BGS132	1.8	3.5	PMCM (Pennine Middle Coal Measures
BGS132	3.5	15.85	PMCM
BGS138	0	0.3	Topsoil
BGS138	0.3	2	Glacial
BGS138	2	6.1	PMCM
BGS140	0	1.1	Made Ground
BGS140	1.1	3.8	Glacial
BGS140	3.8	6	PMCM
BGS140	6	13.72	PMCM
BGS143	0	0.3	Topsoil
BGS143	0.3	1.5	Glacial
BGS143	1.5	6	PMCM
BGS143	6	9	PMCM
BGS245	0	0.3	Topsoil
BGS245	0.3	4.88	PMCM
BGS247	0	0.3	Topsoil
BGS247	0.3	4.57	PMCM
BGS249	0	0.45	Topsoil
BGS249	0.45	3.35	PMCM
BGS252	0	0.3	Topsoil
BGS252	0.3	3.75	PMCM
BGS254	0	0.15	Topsoil
BGS254	0.15	7.62	PMCM
BGS255	0	0.3	Topsoil
BGS255	0.3	3.05	PMCM
BGS257	0	0.15	Topsoil
BGS257	0.15	3.05	PMCM
BGS259	0	0.15	Topsoil
BGS259	0.15	12.9	PMCM
BGS261	0	0.3	Topsoil
BGS261	0.3	2.13	PMCM
BGS264	0	0.6	Topsoil
BGS264	0.6	1.83	PMCM
BGS267	0	0.45	Topsoil
BGS267	0.45	11.89	PMCM
BGS269	0	0.3	Topsoil
BGS269	0.3	2.44	PMCM
BGS270	0	0.3	Topsoil

BGS270	0.3	2.13	PMCM
BGS272	0	0.3	Topsoil
BGS272	0.3	1.83	PMCM
BGS274	0	0.3	Topsoil
BGS274	0.3	9.14	PMCM
BGS277	0	0.3	Topsoil
BGS277	0.3	1.52	PMCM
BGS278	0	0.15	Topsoil
BGS278	0.15	3.2	PMCM
BGS279	0	0.3	Topsoil
BGS279	0.3	1.83	PMCM
BGS280	0	0.3	Topsoil
BGS280	0.3	1.52	PMCM
BGS282	0	0.15	Topsoil
BGS282	0.15	1.83	PMCM
BGS791	0	4	Made Ground
BGS792	0	0.1	Topsoil
BGS792	0.1	0.3	Glacial
BGS792	0.3	0.5	Glacial
BGS792	0.5	0.6	PMCM
BH01	0	0.3	Topsoil
BH01	0.3	3.5	PMCM
BH01	3.5	5.08	PMCM
BH02	0	0.3	Topsoil
BH02	0.3	4	PMCM
BH02	4	4.3	PMCM
BH03	0	0.3	Topsoil
BH03	0.3	3	PMCM
BH03	3	3.45	PMCM
BH04	0	0.3	Topsoil
BH04	0.3	3	PMCM
BH04	3	3.45	PMCM
BH05	0	0.4	Topsoil
BH05	0.4	3	PMCM
BH05	3	3.3	PMCM
BH06	0	0.2	Topsoil
BH06	0.2	3	PMCM
BH06	3	4.3	PMCM
BH07	0	0.4	Topsoil
BH07	0.4	2	PMCM
BH07	2	3.3	PMCM
BH08	0	0.3	Topsoil
BH08	0.3	1.8	PMCM
BH08	1.8	3.4	PMCM

BH09	0	0.4	Topsoil
BH09	0.4	2.8	PMCM
BH09	2.8	3.3	PMCM
BH10	0	1.4	Made Ground
BH10	1.4	2	PMCM
BH10	2	3.45	PMCM
BH11	0	0.4	Topsoil
BH11	0.4	1.9	PMCM
BH11	1.9	3.3	PMCM
R001	0	0.3	Topsoil
R001	0.3	4	PMCM
R001	4	30	PMCM
R002	0	0.3	Topsoil
R002	0.3	6	Made Ground
R002	6	30	PMCM
R003	0	0.1	Topsoil
R003	0.1	4	PMCM
R003	4	40	PMCM
R004	0	0.3	Topsoil
R004	0.3	2	PMCM
R004	2	30	PMCM
R005	0	0.3	Topsoil
R005	0.3	3	PMCM
R005	3	30	PMCM
R006	0	0.3	Topsoil
R006	0.3	2	PMCM
R006	2	30	PMCM
R007	0	0.3	Topsoil
R007	0.3	3	PMCM
R007	3	30	PMCM
R008	0	0.1	Topsoil
R008	0.1	5	PMCM
R008	5	40	PMCM
R010	0	0.3	Topsoil
R010	0.3	1.2	PMCM
R010	1.2	30	PMCM
R011	0	0.3	Topsoil
R011	0.3	1.5	PMCM
R011	1.5	30	PMCM
R012	0	0.3	Topsoil
R012	0.3	1.4	PMCM
R012	1.4	30	PMCM
RC01	0	0.1	Topsoil
RC01	0.1	4.5	PMCM

RC01	4.5	30	PMCM
RC02	0	0.1	Topsoil
RC02	0.1	4.5	PMCM
RC02	4.5	30	PMCM
TP01	0	0.33	Topsoil
TP01	0.33	1.9	PMCM
TP01	1.9	2.6	PMCM
TP02	0	0.4	Topsoil
TP02	0.4	1.05	PMCM
TP02	1.05	2.65	PMCM
TP03	0	0.28	Topsoil
TP03	0.28	2.1	PMCM
TP03	2.1	3.4	PMCM
TP04	0	0.4	Topsoil
TP04	0.4	1.3	PMCM
TP04	1.3	1.9	PMCM
TP04	1.3	2.5	PMCM
TP04	2.5	3.3	PMCM
TP05	0	0.25	Topsoil
TP05	0.25	2.1	PMCM
TP05	2.1	4	PMCM
TP06	0	0.3	Topsoil
TP06	0.3	2.05	PMCM
TP06	2.05	3.4	PMCM
TP07	0	0.4	Topsoil
TP07	0.4	2.3	PMCM
TP07	2.3	3.5	PMCM
TP08	0	0.2	Topsoil
TP08	0.2	1.4	PMCM
TP08	1.4	3.5	PMCM
TP09	0	0.3	Topsoil
TP09	0.3	0.5	PMCM
TP09	0.5	3	PMCM
TP10	0	0.3	Topsoil
TP10	0.3	1	PMCM
TP10	1	3.7	PMCM
TP11	0	0.3	Topsoil
TP11	0.3	0.9	PMCM
TP11	0.9	2.7	PMCM
TP12	0	3.9	Made Ground
TP13	0	3.9	Made Ground
TP14	0	0.3	Topsoil
TP14	0.3	1.5	PMCM
TP14	1.5	3.3	PMCM

TP15	0	0.3	Topsoil
TP15	0.3	1.9	PMCM
TP15	1.9	3	PMCM
TP16	0	0.3	Topsoil
TP16	0.3	1	PMCM
TP16	1	1.8	PMCM
TP16	1.8	2.9	PMCM
TP16	2.9	3.6	PMCM
TT01	0	3.5	Made Ground
TT02	0	3.6	Made Ground
TT03	0	4	Made Ground

APPENDIX C SITE SUMMARY DETAILS

Site name:	Plot 4, Newmarket Lane, Wakefield, West Yorkshire
Site code:	L11324
Grid Reference	SE 436671 425692
Type:	Geoarchaeological Assessment
Area of Site	Approximately 20 hectares
Location of archive:	The archive is currently held at OA North, Mill 3, Moor Lane Mills, Moor Lane, Lancaster, LA1 1QD.
Summary of Results:	Oxford Archaeology (OA) North was commissioned by The Environment Partnership (TEP) to undertake a geoarchaeological assessment of a development south of the M62 and north of Newmarket Lane, Wakefield, West Yorkshire (NGR: SE 436671 425 692). The main aim of the work was to develop a deposit model to permit an understanding of development of the landscape, through identification of the sub-surface sediment sequence. The site lies within a 1km buffer zone on the edge of former glacial Lake Humber, an area that has the potential to have been attractive to Palaeolithic and Mesolithic peoples. Records from a total of 69 geotechnical interventions, including historical borehole data, have been used to compile the deposit model. The model shows that a layer of topsoil rests directly on the weathered surface of bedrock or on bedrock of the Pennine Middle Coal Measures. Evidence for deposition of possible glacial or fluvio-glacial sediments is limited to areas to the north and east, outside the site boundary. The interpreted deposit model does not identify any horizons within the sediment sequence with the potential to preserve evidence for prehistoric human activity/occupation.

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